

Remarks

The Applicants have amended the Abstract to substantially shorten it and to place it into a single paragraph. A copy of the Abstract on a separate sheet is enclosed for the Examiner's convenience. Entry into the official file is respectfully requested.

Both of independent Claims 1 and 6 have been amended to change the amount of Cr from 8 to 30% to 15 to 30%. Direct support may be found in the Applicants' Specification on Page 18 at Line 5, for example. Entry into the official file and consideration on the merits is respectfully requested.

Claims 1-12 stand rejected under 35 U.S.C. §103 over JP '462. The Applicants respectfully submit that JP '462 fails to render those claims obvious. Reasons are set forth below.

JP '462 specifies in the claims the presence of 0.01 to 0.35% Ti, 0.1 to 0.8% Nb, and 0.0005 to 0.010% Mg as indispensable contents. On the other hand, although amended Claim 1 recites that Ti is contained in an amount of 0.05 to 0.5%, the Applicants' Specification from Page 20 at Line 7 from the bottom to Page 21 at Line 3 states that Nb and Mg are not indispensable elements and are at a level of the amount of unavoidable impurities. Thus, JP '462 and amended Claim 1 are dissimilar in terms of the composition of the steel.

JP '462 on Page 3, in Col. 3, Paragraph Nos. [0012] to [0013] states that Nb deposits and Ti deposits mutually provide positive effects. Further, JP '462 in Paragraph No. [0017] on Page 3 in Col. 4 to Page 4 in Col. 5 states that Mg influences the precipitation behavior of the deposits. Because the amounts of Nb and Mg, which influence the deposits, specified by JP '462 and the Applicants' Claim 1 are different, it is impossible to predict from JP '462 the deposition behavior of the Applicants' steels with a reasonable likelihood of success.

The stated advantage of JP '462 is strength at high temperature of 650 to 750°C, as set forth

in Paragraph No. [0034] on Page 6, in Cols. 9-10. However, excellent workability at a high temperature (a high r value, high elongation and low yield strength) which the Applicants' Claim 1 provides (as set out in the Specification on Page 3, Line 9 from the bottom to Page 4, Line 3) is not disclosed. The Applicants therefore respectfully submit that JP '462 fails to render Claims 1-12 obvious. Withdrawal of the rejection is respectfully requested.

Claims 1-12 stand rejected under 35 U.S.C. §103 over JP '231. The Applicants respectfully submit that JP '231 fails to render Claims 1-12 obvious. Reasons are set forth below.

The Mn content is not specified in Claim 1 of JP '231 on Page 2 in the left column. The only item containing Mn is disclosed in an example which contains 0.338% Mn as shown in Table 1 on Page 3. On the other hand, the Applicants' amended Claim 1 specifies 0.3% or less Mn and, as set forth in the Applicants' Specification on Page 15 at Lines 8 to 2 from the bottom, when Mn is contained in an amount 0.3% or less, superior toughness of steel and resistance against secondary machining of a welded portion is able to be achieved.

Further, while the Cr content recited in JP '231 is 10 to 12%, the Cr content in the Applicants' amended Claim 1 is recited as 15 to 30%. Further superior corrosion resistance is achieved when the Cr content is satisfied in a range of from 15 to 30%. Also, the advantage of JP '231 is excellent ridging resistance, as set out on Page 3 in the right column, Paragraph No. [0018]. However, excellent workability (a high r value, high elongation and low yield strength) which the Applicants are able to achieve is not disclosed. The Applicants accordingly respectfully submit that JP '231 is inapplicable to Claims 1-12. Withdrawal of the rejection is respectfully requested.

Claims 1-12 stand rejected under 35 U.S.C. §103 over Yoshitake. The Applicants respectfully submit that Yoshitake fails to render Claims 1-12 obvious. Reasons are set forth below.

Yoshitake states in Col. 7 at Lines 18 to 30 that the particle size of Ti precipitate is 1 or 1.5

μm. However, this value is for a steel melt. On the other hand, the particle size of Ti precipitate specified in the Applicants' Claim 1 is a value for a steel sheet. For manufacturing a steel sheet from molten steel, intermediate processes, such as slab reheating, hot rolling, hot rolled sheet annealing, cold rolling and annealing of cold rolled sheet, are necessary to be performed and, depending on the contents of the processes, the particle size, amount and configuration of precipitates vary greatly. Consequently, the particle size of precipitates of a steel sheet is unable to be determined from the particle size of Ti precipitates in molten steel.

Yoshitake is characterized in that a high ratio of equiaxed crystal (EQ%) can be obtained by specifying a composition to TNA value = $(\text{Ti} \times \text{N})/\text{Al} \geq 0.14$ and, as a result of this, excellent ridging resistance of a cold rolled and annealed sheet can be secured even when hot rolled sheet annealing is omitted. On the other hand, according to the Applicants' Claim 1, high workability can be achieved by controlling the particle size of Ti precipitates and ferrite crystal grain size of a steel sheet, even if $(\text{Ti} \times \text{N})/\text{Al} \geq 0.14$ is not satisfied. Values of $(\text{Ti} \times \text{N})/\text{Al}$ of the inventive steel (including compatible steel) are shown in the following Table.

The Applicants respectfully submit that Yoshitake fails to render Claims 1-12 obvious. Withdrawal of the rejection is respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



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